RW rough draft Response as of 9/2/14 (incomplete; sent to show potential responses):

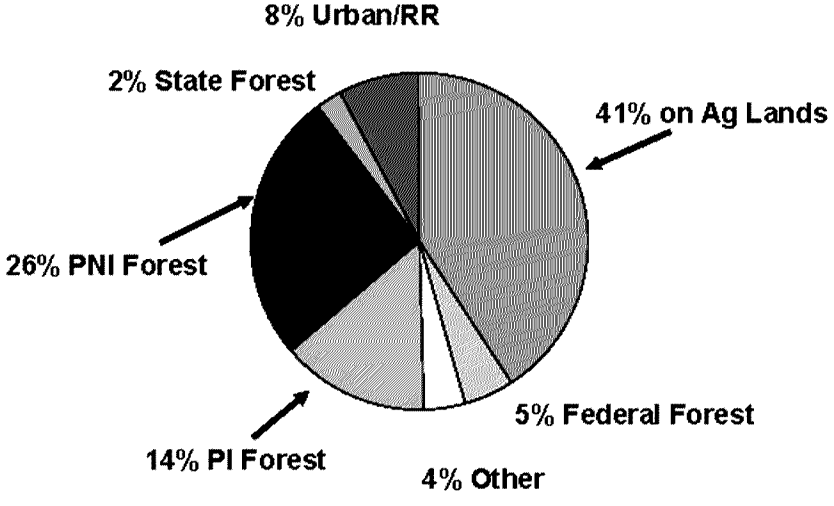
We agree with commenters who pointed out that agricultural land use represents a relatively small percentage of the land uses within the coastal zone. However, several scientific reports describe how agriculture has had an impact on OC coho salmon populations out of proportion to the amount of land used. For example:

A draft report from ODFW[1], citing the Coastal Landscape Assessment and Modeling Study (CLAMS),[2] includes the pie chart shown in Figure 1. This shows that approximately 40% of the high intrinsic potential salmon habitat, considered the key to protection and recovery of OC coho salmon, occurs on agricultural lands. Because agricultural lands and the primary rearing habitat of OC coho salmon (e.g. low gradient valley lowlands) overlap to such a great extent, the impact of agriculture on OC coho salmon habitat is far greater than the percentage of the coastal area devoted to agriculture. We provide excerpts from several scientific documents that support this observation.

THE OREGON PLAN
for salmon & watersheds

DRAFT

Occurrence of High Intrinsic Potential by Land Use



Intrinsic potential analysis from Coastal Landscape Assessment and Modeling Study (CLAMS)

[1] Draft Assessment of Instream habitat in the Oregon Coast Coho ESU
http://www.oregon.gov/OPSW/cohoproject/pdfs/jeffrodgers9_8_04.pdf
[2] http://www.fsl.orst.edu/clams/

From the 2012 NOAA Fisheries Biological Review Team report[3]

- The BRT noted that the legacy of past forest management practices combined with lowland agriculture and urban development have resulted in a situation in which the areas of highest potential habitat capacity are now severely degraded.
- The results of coho salmon habitat surveys (ODFW 2009b), however, imply that loss of wetlands throughout the ESU has had a significant effect on rearing capacities of coastal basins, not just in estuaries. These losses may originate from, to name a few, stream incision and loss of connection with the floodplain, filling and diking of wetlands for agriculture and urban development, and loss of beaver-engineered wetlands due to trapping and disease. This, in addition to estuarine losses, may also have diminished the nomad life history in OCCS populations due to loss of slow water rearing areas.
- The BRT noted that the legacy of past forest management practices combined with lowland agriculture and urban development has resulted in a situation in which the areas of highest habitat capacity (intrinsic potential) are now severely degraded (see Land management—stream habitat complexity subsection). The BRT also noted that the combined ODFW/NMFS analysis of freshwater habitat trends for the Oregon coast found little evidence for an overall improving trend in freshwater habitat conditions since the mid-1990s and evidence of negative trends in some strata (Appendix C). The BRT was also concerned that recent changes in the protection status of beavers, which through their dam building activities create coho habitat, could result in further negative trends in habitat quality. The BRT was therefore concerned that when ocean conditions cycle back to a period of poor survival for coho salmon, the ESU may rapidly decline to the low abundance seen in the mid-1990s.

From the IMST 2002 Report[4]

- Agriculture is the dominant land use of western Oregon lowlands, and many of the alterations to lowland ecosystems are the result of land conversion for agriculture (Azuma et al. 1999). Therefore, its impacts on salmonid habitat, populations, and recovery are prominent in this report.
- Agricultural practices may include cultivation, small-scale nurseries, vineyards, Christmas trees, hybrid cottonwood plantations, or livestock (most commonly horses, llamas, sheep, cattle, or goats, although poultry, swine, and other animals may be observed).
- Harding et al. (1999) concluded that land use, especially agriculture, can result in long-term changes and reductions in aquatic diversity. Other authors have concluded that the extent of agriculture in a basin may be the best predictor of local stream conditions (Allan et al. 1997, Wang et al. 1997).
- Two major lowland land uses, agriculture and urbanization, have been associated with less healthy salmonid stocks of coho, winter steelhead, and summer chinook (Mrakovcich 1998).

[3] Stout et al 2012

[4] Recovery of Wild Salmonids in Western Oregon Lowlands A report of the Independent Multidisciplinary Science Team, Oregon Plan for Salmon and Watersheds Technical Report 2002-1 July 15, 2002

- Low-elevation, low gradient stream reaches were some of the most productive streams in the Pacific Northwest prior to EuroAmerican settlement (Beechie et al. 1994, Lichatowich et al. 1999, Solazzi et al. 2000). Solazzi et al. (2000) concluded that prior to EuroAmerican settlement, the largest number of juvenile coho salmon probably overwintered in low elevation Coast Range streams, in valleys that are now mainly devoted to agriculture. However, few high quality lowland stream reaches (with habitat that could provide refugia and support good salmonid production) were found in random summer habitat surveys of
- watersheds in western Oregon by ODFW during 1998 and 1999 (Thom et al. 1999, Thom et al. 2000). These surveys reported that lowland streams on private, non-forest (largely agricultural) lands had poorer conditions than those on state, federal, or private lands used mainly for timber production. Streams on private, non- forest lands were characterized by a lack of riparian conifers, slightly higher fine sediments, lower volumes and numbers of pieces of large wood, lower densities of deep pools, and lower levels of stream shading than lands primarily managed for timber production. In unconstrained (wide valley floor) streams, only 13 of 55 reaches had high quality habitat (Thom et al. 1999).

Comments critical of our treatment of ag

64,66,68 – A

Many ranchers and farmers in my area have worked hard as required by the AWQMP rules to contribute towards the State's efforts to meet or exceed water quality standards. For instance, local farmers and ranchers have invested hundreds of hours in developing, and re-developing Ag Water Quality Management Plans that formulate watershed goals and investment priority areas that will continue to enhance water quality and ensure the State can meet its water quality obligations. To lose funding for these efforts would be discouraging and limit the capacity to achieve future water quality goals. He has planted trees and provides woodland/riparian boards around creeks.

64,66,68 - H

EPA nor NOAA, haven't provided specific data or information to support their claim that NPS problems from ag are widespread.

71-B:

Agriculture land use represents approximately 5% of the land uses within the coastal zone. The primary agricultural land use within the coastal zone is pasture/hay agriculture, not crop land, which minimizes WQ impacts.

71 M

Agencies provided no data to support that claim that WQ impairments from ag activities are widespread. Instead, proposed agencies' finding references the coho salmon listings and draft recovery plan findings. These documents' references to agriculture impacts to

water quality are limited, based on opinion, anecdotal evidence and are also unsupported by scientific fact or data. For that reason, we request that the agencies remove this assumption or clearly explain that it is a concern that has not been verified with data or science, and therefor may not be a valid concern.

84 - C:

25% of CNP is ag land, but less than 1% is in use other than pasture or hay. Therefore, there is little opportunity for soil disturbance or nutrient loading from traditional row crop fertilizers.

84-G

NOAA/EPA didn't provide any proof for allegation that water quality impairments from ag are "widespread"--only pointed to NMFS recent listings for Coho salmon and draft recovery plans but neither of these documents appear to support such a conclusion and certainly not one which would characterize agricultural activities as presenting concerns of "widespread" impairment. NMFS reports do not specify specific land use as a culprit for need for rip. buffers.